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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/646,430	BURROUGHS, BRANDON STUART	
	Examiner	Art Unit	
	Jeff Piziali	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 December 2008 and 11 August 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8 and 10-15* is/are pending in the application.

4a) Of the above claim(s) *3 and 12* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4-8,10,11 and 13-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *11 August 2008* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submissions filed on *11 August 2008* and *30 December 2008* have been entered.

Drawings

2. The drawing was received on *11 August 2008*. This drawing (*which appears to only add reference numeral 165 to Figure 1*) is acceptable.

3. The drawings have not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the figures.

Specification

4. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Election/Restrictions

5. ***Applicant's election of Invention I (claims 1, 2, 4-8, 10, 11, and 13-15)*** in the reply filed on *30 December 2008* is acknowledged and appreciated.

Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claim Rejections - 35 USC § 112

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 1, 2, 4-8, 10, 11, and 13-15 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement.

The claims contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention.

Claim 1 recites the subject matter: "*the mobile phone comprising: **an alphanumeric keypad**, the alphanumeric keypad including a left set of one or more rows of **alphanumeric input keys** and a right set of one or more rows of **alphanumeric input keys** separated by a centerline*" (lines 3-5).

The original disclosure does not describe "***an alphanumeric keypad***" nor "***alphanumeric input keys***."

Claim 1 recites the subject matter: "***a numeric keypad*** *including* ***a plurality of phone number input keys*** *that together are arranged in a rectangular configuration for* ***entering phone numbers***" (lines 15-16).

The original disclosure does not describe "***a numeric keypad***," "***a plurality of phone number input keys***," nor "***entering phone numbers***."

Claim 10 recites the subject matter: "***an alphanumeric keypad***, *the alphanumeric keypad including a left set of one or more rows of* ***alphanumeric input keys*** *including* ***a left-most alphanumeric input key*** *and* ***a right most alphanumeric input key*** *and a right set of one or more rows of* ***alphanumeric input keys*** *including* ***a left-most alphanumeric input key*** *and a right most* ***alphanumeric input key*** *separated by a centerline*" (lines 3-7).

The original disclosure does not describe "***an alphanumeric keypad***" nor "***alphanumeric input keys***."

Claim 10 recites the subject matter: "***a numeric keypad*** *including* ***a plurality of phone number input keys*** *that together are arranged in a rectangular configuration for* ***entering phone numbers***" (lines 14-15).

The original disclosure does not describe "***a numeric keypad***," "***a plurality of phone number input keys***," nor "***entering phone numbers***."

Claim 10 recites the subject matter: "***the open end of the V shape directed towards the display and the vertex directed towards the numeric keypad***" (lines 14-15).

The original disclosure does not describe "***the open end of the V shape directed towards the display***" nor "***the vertex directed towards the numeric keypad***."

8. The remaining claims are rejected under 35 U.S.C. 112, first paragraph, as being dependent upon rejected base claims.

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claims 1, 2, 4-8, 10, 11, and 13-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

11. Claim 1 is amenable to two or more plausible claim constructions.

The use of the phrase "***a plurality of phone number input keys that together are arranged in a rectangular configuration for entering phone numbers***" (lines 15-16) renders the claim indefinite.

The claimed "***a rectangular configuration***" is amenable to two plausible definitions.

Based on the description provided in the Specification, "***a rectangular configuration***" could be interpreted to mean:

(a) Each key being a rectangle.

(b) All the keys arranged together to form a rectangle.

Thus, neither the Specification, nor the claims, nor the ordinary meanings of the words provides any guidance as to what Applicant intends to cover with this claim language.

Due to the ambiguity as to what is intended by the claimed "***a rectangular configuration***" and the fact that this claim element is amenable to two or more plausible claim constructions, this claim is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter that the Applicant considers to be the invention.

See Ex parte Miyazaki (BPAI Precedential 19 November 2008).

12. Claims 2, 4-8, 11, and 13-15 each recites the limitation "***the keyboard***" (line 1). There is insufficient antecedent basis for this limitation in the claims.

13. The term "***a QWERTY keyboard layout***" in claim 2 (line 1) is a relative term which renders the claim indefinite.

The term "***QWERTY keyboard layout***" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. For example:

It would be unclear to one having ordinary skill in the art whether a "***QWERTY keyboard layout***" is satisfied by merely having a keyboard with the six letters "***QWERTY***" arranged next to

one another in a row; or rather whether such keyboard must have the six letters "***QWERTY***" arranged in the top row of three total rows of alphabetic characters.

The instant invention speaks to the possibility of having only one row of keys (e.g., see paragraph 14). For instance, it would be unclear to one having ordinary skill in the art what a single-rowed "***QWERTY keyboard layout***" looks like.

14. Claim 7 recites the limitation "***the respective arcs***" (line 1). There is insufficient antecedent basis for this limitation in the claim.

15. Claim 7 recites the limitation "***the respective arcs***" (line 2). There is insufficient antecedent basis for this limitation in the claim.

16. Claim 8 recites the limitation "***the arcs***" (line 1). There is insufficient antecedent basis for this limitation in the claim.

17. Claim 8 recites the limitation "***the arcs***" (line 2). There is insufficient antecedent basis for this limitation in the claim.

18. Claim 10 recites the limitation "***the left-most alphanumeric input key***" (line 8). There is insufficient antecedent basis for this limitation in the claim. For example:

It would be unclear whether this limitation is intended to refer to the earlier claimed "*a left set of one or more rows of alphanumeric input keys including* ***a left-most alphanumeric***

input key" (line 3) and/or "*a right set of one or more rows of alphanumeric input keys including* ***a left-most alphanumeric input key***" (line 5).

19. Claim 10 recites the limitation "***the right-most alphanumeric input key***" (line 9). There is insufficient antecedent basis for this limitation in the claim. For example:

It would be unclear whether this limitation is intended to refer to the earlier claimed "*a left set of one or more rows of alphanumeric input keys including a left-most alphanumeric input key and* ***a right most alphanumeric input key***" (line 3) and/or "*a right set of one or more rows of alphanumeric input keys including a left-most alphanumeric input key and* ***a right most alphanumeric input key***" (line 5).

20. Claim 10 is amenable to two or more plausible claim constructions.

The use of the phrase "***a plurality of phone number input keys that together are arranged in a rectangular configuration for entering phone numbers***" (lines 14-15) renders the claim indefinite.

The claimed "***a rectangular configuration***" is amenable to two plausible definitions.

Based on the description provided in the Specification, "***a rectangular configuration***" could be interpreted to mean:

(a) Each key being a rectangle.

(b) All the keys arranged together to form a rectangle.

Thus, neither the Specification, nor the claims, nor the ordinary meanings of the words provides any guidance as to what Applicant intends to cover with this claim language.

Due to the ambiguity as to what is intended by the claimed "***a rectangular configuration***" and the fact that this claim element is amenable to two or more plausible claim constructions, this claim is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter that the Applicant considers to be the invention.

See Ex parte Miyazaki (BPAI Precedential 19 November 2008).

21. It would be unclear to one having ordinary skill in the art what the expression, "***the open end of the V shape directed towards the display and the vertex directed towards the numeric keypad***" in claim 10 (lines 19-20) is intended to mean. For example: The claim does not recite that the "***V shape***" is moving, rendering it unclear how the "***V shape***" could be "***directed towards***" anything.

22. The term "***a QWERTY keyboard layout***" in claim 11 (line 1) is a relative term which renders the claim indefinite.

The term "***QWERTY keyboard layout***" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. For example:

It would be unclear to one having ordinary skill in the art whether a "***QWERTY keyboard layout***" is satisfied by merely having a keyboard with the six letters "***QWERTY***" arranged next to one another in a row; or rather whether such keyboard must have the six letters "***QWERTY***" arranged in the top row of three total rows of alphabetic characters.

The instant invention speaks to the possibility of having only one row of keys (e.g., see paragraph 14). For instance, it would be unclear to one having ordinary skill in the art what a single-rowed "***QWERTY keyboard layout***" looks like.

23. Claim 13 recites the limitation "***the lines drawn through the left-most input key and the right most input key of each row***" (line 1). There is insufficient antecedent basis for this limitation in the claim.

24. Claim 15 recites the limitation "***the respective arcs***" (line 1). There is insufficient antecedent basis for this limitation in the claim.

25. Claim 15 recites the limitation "***the respective arcs***" (line 2). There is insufficient antecedent basis for this limitation in the claim.

26. The claims are rejected under 35 U.S.C. 112, second paragraph, as being indefinite.

As a courtesy to the Applicant, the examiner has attempted to also make rejections over prior art -- based on the examiner's best guess interpretations of the invention that the Applicant is intending to claim.

However, the indefinite nature of the claimed subject matter naturally hinders the Office's ability to search and examine the application.

Any instantly distinguishing features and subject matter that the Applicant considers to be absent from the cited prior art is more than likely a result of the indefinite nature of the claims.

The Applicant is respectfully requested to correct the indefinite nature of the claims, which should going forward result in a more precise search and examination.

Claim Rejections - 35 USC § 103

27. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

28. Claims 1, 2, 4-8, 10, 11, and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over ***Makela et al (US 6,047,196 A)*** in view of ***Hughes et al (US 5,754,655 A)*** and ***Kang (US 2003/0063070 A1)***.

Regarding claim 1, ***Makela*** discloses a mobile phone [*e.g., Fig. 1: 1; Fig. 3: 4*],

the mobile phone including

an upper phone member [*e.g., Fig. 3: 10*] with a display [*e.g., Fig. 3: 12*] and

a lower phone member [*e.g., Fig. 3: 11*],

the mobile phone comprising:

an alphanumeric keypad [*e.g., Fig. 1: 2, 3; Fig. 3: 15, 16, 17*],

the alphanumeric keypad including

a left set of one or more rows of alphanumeric input keys [*e.g., Fig. 3; rows Q, A, Z*] and

a right set of one or more rows of alphanumeric input keys [*e.g., Fig. 3; rows P, L, M*] separated by a centerline [*e.g., Fig. 3; vertical line dividing the keypad/phone in half*],

the left set of one or more rows of alphanumeric input keys including a top row [*e.g., Fig. 3; Q, W E, R, T*] with a right-most key [*e.g., Fig. 3; T*],

the right set of one or more rows of alphanumeric input keys including a top row [*e.g., Fig. 3; Y, U, I, O, P*] with a left-most key [*e.g., Fig. 3; Y*], and

the right-most key of the top row of the left set of one or more rows of alphanumeric input keys being immediately adjacent to the left-most key of the top row of the right set of one or more rows of alphanumeric input keys,

the left set of one or more rows of alphanumeric input keys arranged in one or more respective arcs having one or more respective arc centers located to the left of the centerline, and

the right set of one or more rows of alphanumeric input keys arranged in one or more respective arcs having one or more respective arc centers located to the right of the centerline (*see the entire document, including Column 3, Line 14 - Column 5, Line 3*); and

a numeric keypad [*e.g., Fig. 1; 2*] including a plurality of phone number input keys that together are arranged in a rectangular configuration for entering phone numbers, and

distinct from, the left and right sets of one or more rows of alphanumeric input keys [*e.g., Fig. 1; 3*], wherein

the left set of one or more rows of alphanumeric input keys and the right set of one or more rows of alphanumeric input keys are sandwiched between the display and the numeric keypad (*see the entire document, including Column 1, Line 4 - Column 2, Line 64*).

Should it be shown that ***Makela*** teaches "*alphanumeric input keys sandwiched between the display and the numeric keypad*" subject matter with insufficient specificity:

Hughes discloses a mobile phone [*e.g., Fig. 11: 300; Fig. 13: 400*],

the mobile phone including

an upper phone member with a display [*e.g., Fig. 11: 12*] and

a lower phone member,

the mobile phone comprising:

an alphanumeric keypad [*e.g., Fig. 11: 14*],

the alphanumeric keypad including

a left set of one or more rows of alphanumeric input keys [*e.g., Fig. 11: rows Q, A, Z*] and

a right set of one or more rows of alphanumeric input keys [*e.g., Fig. 11: rows P, L, M*] separated by a centerline [*e.g., Fig. 11: vertical line dividing the phone/keypad in half*],

the left set of one or more rows of alphanumeric input keys including a top row [*e.g., Fig. 11: Q, W E, R, T*] with a right-most key [*e.g., Fig. 11: T*],

the right set of one or more rows of alphanumeric input keys including a top row [*e.g., Fig. 11: Y, U, I, O, P*] with a left-most key [*e.g., Fig. 11: Y*], and

the right-most key of the top row of the left set of one or more rows of alphanumeric input keys being immediately adjacent to the left-most key of the top row of the right set of one or more rows of alphanumeric input keys,

the left set of one or more rows of alphanumeric input keys arranged in one or more respective arcs having one or more respective arc centers located to the left of the centerline, and

the right set of one or more rows of alphanumeric input keys arranged in one or more respective arcs having one or more respective arc centers located to the right of the centerline; and

a numeric keypad [*e.g., Fig. 11: 16*] including a plurality of phone number input keys that together are arranged in a rectangular configuration for entering phone numbers, and

distinct from, the left and right sets of one or more rows of alphanumeric input keys, wherein

the left set of one or more rows of alphanumeric input keys and the right set of one or more rows of alphanumeric input keys are sandwiched between the display and the numeric keypad (*see the entire document, including Column 9, Lines 8-51*).

Should it be shown that both ***Makela*** and ***Hughes*** teaches "*one or more respective arcs having one or more respective arc centers*" subject matter with insufficient specificity:

Kang discloses a mobile phone (*see the entire document, including Paragraph 21*),

the mobile phone including

an upper phone member with a display [*e.g., Fig. 5: 44*] and

a lower phone member,

the mobile phone comprising:

an alphanumeric keypad [*e.g., Fig. 3: 32; Fig. 5: 34, 48*],

the alphanumeric keypad including

a left set of one or more rows of alphanumeric input keys [*e.g., Fig. 3: 8*] and

a right set of one or more rows of alphanumeric input keys [*e.g., Fig. 3: 6*] separated by a centerline [*e.g., Fig. 3: 9*],

the left set of one or more rows of alphanumeric input keys including a top row [*e.g., Fig. 3: top left row*] with a right-most key [*e.g., Fig. 3: right-most key on the top left row*],

the right set of one or more rows of alphanumeric input keys including a top row [*e.g., Fig. 3: top right row*] with a left-most key [*e.g., Fig. 3: left-most key on the top right row*], and

the right-most key of the top row of the left set of one or more rows of alphanumeric input keys being immediately adjacent [*e.g., Fig. 3: at 12*] to the left-most key of the top row of the right set of one or more rows of alphanumeric input keys,

the left set of one or more rows of alphanumeric input keys arranged in one or more respective arcs [*e.g., Fig. 3: 40*] having one or more respective arc centers located to the left of the centerline, and

the right set of one or more rows of alphanumeric input keys arranged in one or more respective arcs having one or more respective arc centers located to the right of the centerline; and

a numeric keypad including a plurality of phone number input keys that together are arranged in a rectangular configuration for entering phone numbers, and

distinct from, the left and right sets of one or more rows of alphanumeric input keys, wherein

the left set of one or more rows of alphanumeric input keys and the right set of one or more rows of alphanumeric input keys are sandwiched between the display and the numeric keypad (*see the entire document, including Paragraphs 16-17 and 20-21*).

Makela, ***Hughes***, and ***Kang*** are all analogous art, because they are from the shared inventive field of keyboards for mobile phone devices.

Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention to combine ***Kang's*** "*arced QWERTY keyboard*" (which is optimized for use by the thumbs) with ***Hughes'*** "*display + QWERTY keyboard + numeric keypad*" sandwiching arrangement (which provides a specialized numeric keypad for streamlined number entry) and with ***Makela's*** clam shell mobile phone (which gives the phone a smaller footprint while protecting the display and keyboard from inadvertent physical contact when in the closed position).

Secondly, it would have been obvious to one of ordinary skill in the art at the time of invention because all the claimed elements were known in the prior art and one skilled in the art could have combined the keyboard elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

Thirdly, it would have been obvious to one of ordinary skill in the art at the time of invention, because the substitution of one known keyboard arrangement for another would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

Fourthly, it would have been obvious to one of ordinary skill in the art at the time of invention , because the technique for improving this particular class of keyboard device was part of the ordinary skill in the art, in view of the teaching of the technique for improvement in other situations.

Fifthly, it would have been obvious to one of ordinary skill in the art at the time of invention, because this particular known keyboard arrangement technique was recognized as part of the ordinary capabilities of one skilled in the art.

Sixthly, it would have been obvious to one of ordinary skill in the art at the time of invention, because a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product is not of innovation but of ordinary skill and common sense.

Seventhly, it would have been obvious to one of ordinary skill in the art at the time of invention, because design incentives or market forces provided a reason to make a keyboard adaptation, and the invention resulted from application of the prior knowledge in a predictable manner.

See KSR International Co. v. Teleflex Inc., et al., Docket No. 04-1350 (U.S. 30 April 2007).

Regarding claim 2, ***Makela*** discloses the mobile phone having a QWERTY keyboard layout (*see the entire document, including Figs. 1, 3; Column 3, Lines 38 - Column 5, Line 3*).

Hughes discloses the mobile phone having a QWERTY keyboard layout (*see the entire document, including Figs. 11, 13; Column 9, Lines 8-51*).

Kang discloses the mobile phone having a QWERTY keyboard layout (*see the entire document, including Fig. 5; Paragraphs 16-17 and 20-21*).

Regarding claim 4, ***Kang*** discloses the one or more respective arc centers of the left set of one or more rows of input keys are concentric and

the one or more respective arc centers of the right set of one or more rows of input keys are concentric (*see the entire document, including Figs. 3, 5; Paragraphs 16-17 and 20-21*).

Regarding claim 5, ***Kang*** discloses the one or more respective arc centers of the left set of one or more rows of input keys are collinear and

the one or more respective arc centers of the right set of one or more rows of input keys are collinear (*see the entire document, including Figs. 3, 5; Paragraphs 16-17 and 20-21*).

Regarding claim 6, ***Kang*** discloses the one or more respective arc centers of the left set of one or more rows of input keys are collinear and

located in at least one of a vertical line and a horizontal line and

the one or more respective arc centers of the right set of one or more rows of input keys are collinear and

located in at least one of a vertical line and a horizontal line (*see the entire document, including Figs. 3, 5; Paragraphs 16-17 and 20-21*).

Regarding claim 7, ***Kang*** discloses the respective arcs of the left set of one or more rows of input keys and the respective arcs of the right set of one or more rows of input keys include radii of curvature between 10 mm and infinity (*see the entire document, including Figs. 3, 5; Paragraphs 16-17 and 20-21*).

Regarding claim 8, ***Kang*** discloses the arcs of the left set of one or more rows of input keys and the arcs of the right set of one or more rows of input keys form respective angles between 0 and 90 degrees with respect to the centerline (*see the entire document, including Figs. 3, 5; Paragraphs 16-17 and 20-21*).

Regarding claim 10, this claim is rejected by the reasons provided in rejecting claim 1; furthermore, ***Makela*** discloses a mobile phone [*e.g., Fig. 1: 1; Fig. 3: 4*], the mobile phone including

an upper phone member [*e.g., Fig. 3: 10*] with a display [*e.g., Fig. 3: 12*],

a lower phone member [*e.g., Fig. 3: 11*]

the mobile phone comprising:

an alphanumeric keypad [*e.g., Fig. 1: 2, 3; Fig. 3: 15, 16, 17*],

the alphanumeric keypad including

a left set of one or more rows of alphanumeric input keys [*e.g., Fig. 3; rows Q, A, Z*] including

a left-most alphanumeric input key [*e.g., Fig. 3; Q, A, Z*] and

a right most alphanumeric input key [*e.g., Fig. 3; T, G, B*] and

a right set of one or more rows of alphanumeric input keys [*e.g., Fig. 3; rows P, L, M*] including

a left-most alphanumeric input key [*e.g., Fig. 3; Y, H, N*] and

a right most alphanumeric input key [*e.g., Fig. 3; P, L, M*] separated by a centerline [*e.g., Fig. 3; vertical line dividing the keypad/phone in half*],

the left set of one or more rows are opposite the right set of one or more rows, and

lines drawn through the left-most alphanumeric input key and the right most alphanumeric input key of opposite rows intersect the centerline,

immediately adjacent the right-most alphanumeric input key of the left set of one or more rows of alphanumeric input keys and the left-most alphanumeric input key of the right set of one or more rows of alphanumeric input keys,

to form a V shape with a vertex intersecting the centerline (*see the entire document, including Column 3, Line 14 - Column 5, Line 3*); and

a numeric keypad [*e.g., Fig. 1; 2*] including

a plurality of phone number input keys that together are arranged in a rectangular configuration for entering phone numbers, and

distinct from, the left and right sets of one or more rows of alphanumeric input keys [*e.g., Fig. 1; 3*], wherein

the left set of one or more rows of alphanumeric input keys and the right set of one or more rows of alphanumeric input keys are sandwiched between the display and the numeric keypad, and

the open end of the V shape directed towards the display and the vertex directed towards the numeric keypad (*see the entire document, including Column 1, Line 4 - Column 2, Line 64*).

Should it be shown that ***Makela*** teaches "*alphanumeric input keys sandwiched between the display and the numeric keypad*" subject matter with insufficient specificity:

Hughes discloses a mobile phone [*e.g., Fig. 11: 300; Fig. 13: 400*], the mobile phone including

an upper phone member with a display [*e.g., Fig. 11: 12*],

a lower phone member

the mobile phone comprising:

an alphanumeric keypad,

the alphanumeric keypad [*e.g., Fig. 11: 14*] including

a left set of one or more rows of alphanumeric input keys [*e.g., Fig. 11: rows Q, A, Z*] including

a left-most alphanumeric input key [*e.g., Fig. 11; Q, A, Z*] and

a right most alphanumeric input key [*e.g., Fig. 11; T, G, B*] and

a right set of one or more rows of alphanumeric input keys [*e.g., Fig. 11: rows P, L, M*] including

a left-most alphanumeric input key [*e.g., Fig. 11; Y, H, N*] and

a right most alphanumeric input key [*e.g., Fig. 11; P, L, M*] separated by a centerline [*e.g., Fig. 11: line dividing the phone/keypad in half*],

the left set of one or more rows are opposite the right set of one or more rows, and

lines drawn through the left-most alphanumeric input key and the right most alphanumeric input key of opposite rows intersect the centerline,

immediately adjacent the right-most alphanumeric input key of the left set of one or more rows of alphanumeric input keys and the left-most alphanumeric input key of the right set of one or more rows of alphanumeric input keys,

to form a V shape with a vertex intersecting the centerline; and

a numeric keypad [*e.g., Fig. 11: 16*] including

a plurality of phone number input keys that together are arranged in a rectangular configuration for entering phone numbers, and

distinct from, the left and right sets of one or more rows of alphanumeric input keys, wherein

the left set of one or more rows of alphanumeric input keys and the right set of one or more rows of alphanumeric input keys are sandwiched between the display and the numeric keypad, and

the open end of the V shape directed towards the display and the vertex directed towards the numeric keypad (*see the entire document, including Column 9, Lines 8-51*).

Should it be shown that both ***Makela*** and ***Hughes*** teaches "*V shape*" subject matter with insufficient specificity:

Kang discloses a mobile phone, the mobile phone (*see the entire document, including Paragraph 21*) including

an upper phone member with a display [*e.g., Fig. 5: 44*],

a lower phone member

the mobile phone comprising:

an alphanumeric keypad [*e.g., Fig. 3: 32; Fig. 5: 34, 48*],

the alphanumeric keypad including a left set of one or more rows of alphanumeric input keys [*e.g., Fig. 3: 8*] including

a left-most alphanumeric input key [*e.g., Fig. 5; Q, A, Z*] and

a right most alphanumeric input key [*e.g., Fig. 5; T, G, B*] and

a right set of one or more rows of alphanumeric input keys [*e.g., Fig. 3: 6*] including

a left-most alphanumeric input key [*e.g., Fig. 5; Y, H, N*] and

a right most alphanumeric input key [*e.g., Fig. 5; P, L, M*] separated by a centerline [*e.g., Fig. 3: 9*],

the left set of one or more rows are opposite the right set of one or more rows, and

lines drawn through the left-most alphanumeric input key and the right most alphanumeric input key of opposite rows intersect the centerline,

immediately adjacent [*e.g., Fig. 3: at 12*] the right-most alphanumeric input key of the left set of one or more rows of alphanumeric input keys and the left-most alphanumeric input key of the right set of one or more rows of alphanumeric input keys,

to form a V shape [*e.g., Fig. 3: 40*] with a vertex intersecting the centerline; and

a numeric keypad including

a plurality of phone number input keys that together are arranged in a rectangular configuration for entering phone numbers, and

distinct from, the left and right sets of one or more rows of alphanumeric input keys, wherein

the left set of one or more rows of alphanumeric input keys and the right set of one or more rows of alphanumeric input keys are sandwiched between the display and the numeric keypad, and

the open end of the V shape directed towards the display and the vertex directed towards the numeric keypad (*see the entire document, including Paragraphs 16-17 and 20-21*).

Makela, ***Hughes***, and ***Kang*** are all analogous art, because they are from the shared inventive field of keyboards for mobile phone devices.

Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention to combine ***Kang's*** "*V shaped QWERTY keyboard*" (which is optimized for use by the thumbs) with ***Hughes'*** "*display + QWERTY keyboard + numeric keypad*" sandwiching arrangement (which provides a specialized numeric keypad for streamlined number entry) and with ***Makela's*** clam shell mobile phone (which gives the phone a smaller footprint while protecting the display and keyboard from inadvertent physical contact when in the closed position).

Secondly, it would have been obvious to one of ordinary skill in the art at the time of invention because all the claimed elements were known in the prior art and one skilled in the art could have combined the keyboard elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

Thirdly, it would have been obvious to one of ordinary skill in the art at the time of invention, because the substitution of one known keyboard arrangement for another would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

Fourthly, it would have been obvious to one of ordinary skill in the art at the time of invention , because the technique for improving this particular class of keyboard device was part of the ordinary skill in the art, in view of the teaching of the technique for improvement in other situations.

Fifthly, it would have been obvious to one of ordinary skill in the art at the time of invention, because this particular known keyboard arrangement technique was recognized as part of the ordinary capabilities of one skilled in the art.

Sixthly, it would have been obvious to one of ordinary skill in the art at the time of invention, because a person of ordinary skill has good reason to pursue the known options within

his or her technical grasp. If this leads to the anticipated success, it is likely the product is not of innovation but of ordinary skill and common sense.

Seventhly, it would have been obvious to one of ordinary skill in the art at the time of invention, because design incentives or market forces provided a reason to make a keyboard adaptation, and the invention resulted from application of the prior knowledge in a predictable manner.

See KSR International Co. v. Teleflex Inc., et al., Docket No. 04-1350 (U.S. 30 April 2007).

Regarding claim 11, this claim is rejected by the reasoning applied in rejecting claim 2.

Regarding claim 13, ***Kang*** discloses the lines drawn through the left-most input key and the right most input key of each row intersect at the centerline to form an angle with respect to the centerline that is between 0 degrees and 90 degrees (*see the entire document, including Figs. 3, 5; Paragraphs 16-17 and 20-21*).

Regarding claim 14, this claim is rejected by the reasoning applied in rejecting claim 1.

Regarding claim 15, this claim is rejected by the reasoning applied in rejecting claim 7.

Response to Arguments

29. Applicant's arguments filed *11 August 2008* have been fully considered but they are not persuasive.

The Applicant contends, "*While **Makela** discloses an alphanumeric display, the alphanumeric display is a typical rectangular alphanumeric display. Much like **Kim**, the only aspect of the mobile device in **Makela** that appears to have an arc-like feature is the navigational or control keys, which as described previously are different from the alphanumeric keys recited in claim 1... Claims 1,2, 4-8, 10, 11 and 13-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Makela** in view of **Hughes et al. US 5,754,655 A (Hughes)** and **Kang US 2003/0063070A1 (Kang)**. The addition of **Hughes** and **Kang** fail to cure the defects of **Makela** described above. The combination of references does not yield all of the limitations set forth in claims 1, 2, 4-8, 10, 11 and 13-20. Therefore, it is respectfully submitted that claims 1, 2, 4-8, 10, 11 and 13-20 are not obvious over **Makela** in view of **Hughes** and **Kang***" (see Pages 18-19 of the Response filed *11 August 2008*).

However, as addressed in the above newly composed rejections, the examiner respectfully disagrees.

Applicant's arguments with respect to claims 1, 2, 4-8, 10, 11, and 13-15 have been considered but are moot in view of the new ground(s) of rejection.

By such reasoning, rejection of the claims is deemed necessary, proper, and thereby maintained at this time.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff Piziali whose telephone number is (571)272-7678. The examiner can normally be reached on Monday - Friday (6:30AM - 3PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chanh Nguyen can be reached on (571) 272-7772. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/Jeff Piziali/
Primary Examiner, Art Unit 2629
27 March 2009